Title (en)
METHOD AND SYSTEM FOR RECOMMENDING TOOL CONFIGURATIONS IN MACHINING

Title (de)
VERFAHREN UND SYSTEM ZUR EMPFEHLUNG VON WERKZEUGKONFIGURATIONEN BEI DER BEARBEITUNG

Title (fr)
PROCÉDÉ ET SYSTÈME POUR RECOMMANDER DES CONFIGURATIONS D'OUTILS EN USINAGE

Publication
EP 3832412 A1 20210609 (EN)

Application
EP 20211757 A 20201204

Priority
IN 201921050010 A 20191204

Abstract (en)
This disclosure relates generally to recommending tool configurations in machining. The machining tool configuration selection involves the selection of several tool specification parameters concerning the material, geometry and composition of the machining tool. The state-of-the-art methods uses a rule and knowledge-based system to select tool configuration, however these methods do not recommend tool configurations which satisfy customer requirement. Embodiments of the present disclosure uses a hierarchical model which is trained to predict acceptable tool specification parameters for a given requirement by learning the patterns from past tool selection data. Further a probabilistic approach is used to predict the top set of recommendations of tool configurations with a probability score for each prediction. The disclosed method is used for recommending tool configurations in a cylindrical grinding wheel process.

IPC 8 full level
G05B 19/404 (2006.01)

CPC (source: EP US)
G05B 19/404 (2013.01 - EP); **G06N 7/01** (2023.01 - US); **G06N 20/00** (2018.12 - US); G05B 2219/35327 (2013.01 - EP); G05B 2219/37518 (2013.01 - EP); G06N 3/047 (2023.01 - US); G06N 3/08 (2013.01 - US)

Citation (search report)
- [X] US 2019258222 A1 20190822 - KARANDIKAR JAYDEEP [US], et al
- [X] US 10438114 B1 20191008 - BLUNDELL CHARLES [GB], et al
- [A] CN 105241239 B 20170721
- [A] US 2011082825 A1 20110407 - SATHISH SAILESH [FI], et al
- [X] RAMAMURTHI K ET AL: "REAL TIME EXPERT SYSTEM FOR PREDICTIVE DIAGNOSTICS AND CONTROL OF DRILLING OPERATION", PROCEEDINGS OF THE CONFERENCE ON ARTIFICIAL INTELLIGENCE APPLICATIONS. SANTA BARBARA, MAR. 5 - 9, 1990; [PROCEEDINGS OF THE CONFERENCE ON ARTIFICIAL INTELLIGENCE APPLICATIONS], LOS ALAMITOS, IEEE COMP. SOC. PRESS, US, vol. 1, 5 March 1990 (1990-03-05), pages 63 - 69, XP000295065, ISBN: 978-0-8186-2032-4

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)
BA ME

DOCDB simple family (publication)
EP 3832412 A1 20210609; US 2021216896 A1 20210715

DOCDB simple family (application)
EP 20211757 A 20201204; US 202017111097 A 20201203